

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claim 1 (Currently Amended): A process for producing arachidonic acid or a lipid containing arachidonic acid comprising the steps of:

(1) culturing a microorganism[[.]] belonging to the genus *Mortierella*[[.]] and subgenus *Mortierella* that is strain SAM 2197 (FERM BP-6261) ~~and having resistance to a carbon source of high concentration~~, in a medium having a carbon source concentration of at least 4% by weight at the start of culturing and the addition of at least an additional 6% by weight of carbon source during the culturing, thereby forming arachidonic acid or a lipid containing arachidonic acid;

(2) collecting the cultured cells; and

(3) extracting arachidonic acid or a lipid containing arachidonic acid from the collected cells;

wherein the microorganism produces arachidonic acid of at least about 7 g/L culture medium when cultured in a medium containing at least about 4% carbon source at the start of culturing and the addition of at least an additional 6% by weight of carbon source during the culturing, and at least about 2% nitrogen source at the start of culturing for 5 to 10 days with agitation and aeration.

Claims 2-6 (Canceled).

Claim 7 (Previously Presented): The process for producing arachidonic acid or lipid containing arachidonic acid according to claim 1, wherein the carbon source concentration at the start of culturing is at least 8% by weight.

Claims 8-33 (Canceled).

Claim 34 (Currently Amended): A process for producing arachidonic acid or a lipid containing arachidonic acid comprising the steps of:

- (1) culturing a microorganism of strain *Mortierella* sp. SAM 2197 (FERM BP-6261) ~~and having resistance to a carbon source of high concentration~~, in a medium having a carbon source concentration of at least 4% by weight at the start of culturing and the addition of at least an additional 6% by weight of carbon source during the culturing, thereby forming arachidonic acid or a lipid containing arachidonic acid;
- (2) collecting the cultured cells; and
- (3) extracting arachidonic acid or a lipid containing arachidonic acid from the collected cells;

wherein the microorganism produces arachidonic acid of at least about 7 g/L culture medium when cultured in a medium containing at least about 4% carbon source at the start of culturing and the addition of at least an additional 6% by weight of carbon source during the culturing, and at least about 2% nitrogen source at the start of culturing for 5 to 10 days with agitation and aeration.

Claims 35-36 (Canceled).

Claim 37 (Currently Amended): The process for producing arachidonic acid or lipid containing arachidonic acid according to claim 34 ~~[[35]]~~, wherein the carbon source concentration at the start of culturing is at least 8% by weight.